WHAT IS CLAIMED IS:

1.   A method for configuring a plurality of network interfaces for monitoring functionality of the network interfaces with a monitoring process, the network
5   interfaces being grouped into a plurality of nodes, the method comprising the steps of:

    receiving a base address and subnet mask for the plurality of network interfaces;

    automatically generating a monitoring address for each of the network
10   interfaces based on the base address, the subnet mask, and the nodes, the monitoring addresses being generated such that the monitoring address for each of the network interfaces is on a different subnet than the monitoring addresses for all of the other network interfaces in the same node as that network interface; and

15   assigning the monitoring addresses to the network interfaces for use by the monitoring process, each of the monitoring addresses being assigned by being added as an additional network interface address of its network interface.

2.   The method of claim 1, wherein the receiving step includes the sub-step
20   of receiving a base address and subnet mask for the plurality of network interfaces from a user.

3.   The method of claim 1, further comprising the step of sending a monitoring message to each of the monitoring addresses in order to determine
25   connectivity of each of the network interfaces.

4.   The method of claim 1, wherein in the assigning step, each of the monitoring addresses is assigned using IP aliasing by being added as an alias IP address of its network interface.

5   5.   The method of claim 1, wherein the automatically generating step includes the sub-step of generating the monitoring address for the first network interface in each node by adding the base address to a node index for that node.

6.   The method of claim 5, wherein the automatically generating step further
10   includes the sub-step of:

generating the monitoring address for the second network interface in each node using the node index for that node in the formula:

((network ID + subnet increment) AND host ID) + node index,

wherein the network ID and the host ID are based on the base address
15   and the subnet mask, and

the subnet increment is based on the subnet mask.

7.   A computer readable medium including computer instructions for configuring a plurality of network interfaces for monitoring functionality of the network interfaces with a monitoring process, the network interfaces being grouped into a plurality of nodes, the computer instructions including instructions

5   for performing the steps of:

receiving a base address and subnet mask for the plurality of network interfaces;

automatically generating a monitoring address for each of the network interfaces based on the base address, the subnet mask, and the nodes, the

10   monitoring addresses being generated such that the monitoring address for each of the network interfaces is on a different subnet than the monitoring addresses for all of the other network interfaces in the same node as that network interface; and

assigning the monitoring addresses to the network interfaces for use by

15   the monitoring process, each of the monitoring addresses being assigned by being added as an additional network interface address of its network interface.

8.   The computer readable medium of claim 7, wherein the receiving step includes the sub-step of receiving a base address and subnet mask for the

20   plurality of network interfaces from a user.

9.   The computer readable medium of claim 7, wherein the computer instructions further including instructions for performing the step of sending a monitoring message to each of the monitoring addresses in order to determine

25   connectivity of each of the network interfaces.

10. The computer readable medium of claim 7, wherein in the assigning step, each of the monitoring addresses is assigned using IP aliasing by being added as an alias IP address of its network interface.

5   11. The computer readable medium of claim 7, wherein the automatically generating step includes the sub-step of generating the monitoring address for the first network interface in each node by adding the base address to a node index for that node.

10   12. The computer readable medium of claim 11, wherein the automatically generating step further includes the sub-step of:

generating the monitoring address for the second network interface in each node using the node index for that node in the formula:

((network ID + subnet increment) AND host ID) + node index,

15   wherein the network ID and the host ID are based on the base address and the subnet mask, and

the subnet increment is based on the subnet mask.

13.   A method for monitoring functionality of a plurality of network interfaces and providing fault recovery, the network interfaces being grouped into a plurality of nodes and a monitoring address being assigned to each of the network interfaces such that the monitoring address for each of the network interfaces is

5   on a different subnet than the monitoring addresses for all of the other network interfaces in the same node as that network interface, the method comprising the steps of:

periodically sending a monitoring message to each of the network interfaces via the monitoring addresses in order to determine the functionality of

10   the network interfaces;

if no monitoring message is received within a predetermined period, performing a recovery operation for one of the network interfaces using one or more recovery addresses of the one network interface,

wherein each of the network interfaces is assigned one or more recovery

15   addresses that each are different than its monitoring address.

14.   The method of claim 13, further comprising the step of:

automatically generating the monitoring addresses for the network interfaces,

wherein the automatically generating step includes the sub-steps of:

5   generating the monitoring address for the first network interface in each node by adding the base address to a node index for that node; and

generating the monitoring address for the second network interface in each node using the node index for that node in the

10   formula:

((network ID + subnet increment) AND host ID)

+ node index,

wherein the network ID and the host ID are based on the base address and the subnet mask, and

15   the subnet increment is based on the subnet mask.

15.   The method of claim 13, wherein the performing step includes the sub-steps of:

if no monitoring message is received within the predetermined period,

20   sending a failure notification with the monitoring address of the one network interface;

determining the one or more recovery addresses to be recovered based on the monitoring address in the failure notification; and

performing the recovery operation for the one network interface using the

25   one or more recovery addresses of the one network interface.

16.   A computer readable medium including computer instructions for monitoring functionality of a plurality of network interfaces and providing fault recovery, the network interfaces being grouped into a plurality of nodes and a monitoring address being assigned to each of the network interfaces such that

5   the monitoring address for each of the network interfaces is on a different subnet than the monitoring addresses for all of the other network interfaces in the same node as that network interface, the computer instructions including instructions for performing the steps of:

        periodically sending a monitoring message to each of the network

10   interfaces via the monitoring addresses in order to determine the functionality of the network interfaces;

        if no monitoring message is received within a predetermined period, performing a recovery operation for one of the network interfaces using one or more recovery addresses of the one network interface,

15   wherein each of the network interfaces is assigned one or more recovery addresses that each are different than its monitoring address.

17.   The computer readable medium of claim 16, wherein the computer instructions further including instructions for performing the step of:

automatically generating the monitoring addresses for the network interfaces,

5   wherein the automatically generating step includes the sub-steps of:

generating the monitoring address for the first network interface in each node by adding the base address to a node index for that node; and

generating the monitoring address for the second network

10   interface in each node using the node index for that node in the formula:

((network ID + subnet increment) AND host ID)

+ node index,

wherein the network ID and the host ID are based on the

15   base address and the subnet mask, and

the subnet increment is based on the subnet mask.

18.   The method of claim 16, wherein the performing step includes the sub-steps of:

20   if no monitoring message is received within the predetermined period, sending a failure notification with the monitoring address of the one network interface;

determining the one or more recovery addresses to be recovered based on the monitoring address in the failure notification; and

25   performing the recovery operation for the one network interface using the one or more recovery addresses of the one network interface.

19.   A system comprising:

a plurality of network interfaces grouped into nodes;

a monitoring unit for monitoring functionality of the network interfaces;

means for automatically generating a monitoring address for each of the network interfaces based on a base address, a subnet mask, and the nodes, the monitoring addresses being generated such that the monitoring address for each of the network interfaces is on a different subnet than the monitoring addresses for all of the other network interfaces in the same node as that network interface; and

means for assigning the monitoring addresses to the network interfaces for use by the monitoring unit, each of the monitoring addresses being assigned by being added as an additional network interface address of its network interface.

20.   The system of claim 19, wherein the means for automatically generating generates the monitoring address for the first network interface in each node by adding the base address to a node index for that node.

21.   The system of claim 20, wherein the means for automatically generating generates the monitoring address for the second network interface in each node using the node index for that node in the formula:

((network ID + subnet increment) AND host ID) + node index,

wherein the network ID and the host ID are based on the base address and the subnet mask, and

the subnet increment is based on the subnet mask.